IN THE CLAIMS:

The currently pending claims in the referenced patent application are as follows.

1-30. (Canceled)

31. (Original) A processing system to blend two images, the system comprising:

a vector register file comprising a plurality of vector registers;

a vector processing unit coupled to the vector register file, the vector processing unit comprising a vector look up unit adapted to look up a vector of data items simultaneously, the vector processing unit:

loading a vector of keys into a vector register in the vector register file;

converting the vector of keys into a first vector of blending factors for a first image and a second vector of blending factors for a second image using a plurality of look up tables in the vector look up unit; and

computing an image attribute for a blended image using the blending factors.

32. (Original) A processing system as in claim 31 wherein the blending factors are one of:

a) floating point numbers;

b) fixed point numbers; and

c) integers.

33. (Original) A processing system as in claim 31 wherein to convert the vector of keys the vector processing unit:

generates a first vector of indices in a vector register in the vector register file by replicating a first subset of the vector of keys as a first subset of the first vector of indices for looking up first blending factors for the first image and replicating the first subset of the vector of keys as a second subset of the first vector of indices for looking up second blending factors for the second image; and

looks up simultaneously the first and second blending factors using the first vector of indices in the vector look up unit.

34. (Original) A processing system as in claim 33 wherein the vector processing unit stores the first blending factors into the first vector of blending factors in a first vector register in the vector register file and the second blending factors into the second vector of blending factors in a second vector register in the vector register file.

35. (Original) A processing system as in claim 31 wherein to convert the vector of keys the vector processing unit:

generates a first vector of indices in a vector register in the vector register file, one key in the vector of keys being replicated as a first plurality of indices in the first vector of indices for looking up respectively a plurality of bit segments of a first blending factor; and

looks up simultaneously a first vector of blending factors comprising the first blending factor using the first vector of indices in the vector look up unit.

36. (Original) A processing system to blend two images, the system comprising:

a vector register file comprising a plurality of vector registers;

a vector processing unit coupled to the vector register file, the vector processing unit comprising a vector look up unit adapted to look up a vector of data items simultaneously, the vector processing unit:

loading a first vector of keys into a vector register in the vector register file;

loading a second vector of keys into a vector register in the vector register file;

converting the first vector of keys into a first vector of blending factors for a first image and the second vector of keys into a second vector of blending factors for a second image using a plurality of look up tables in the vector look up unit; and

computing an image attribute for a blended image using the blending factors.

37. (Original) A processing system as in claim 36 wherein the blending factors are one of:

a) floating point numbers;

b) fixed point numbers; and

c) integers.

38. (Original) A processing system as in claim 36 to convert the vector of keys the vector processing unit:

generates a first vector of indices in a vector register by replicating a first subset of the first vector of keys as a first subset of the first vector of indices for looking up first blending factors for the first image and replicating a first subset of the second vector of keys as a second subset of the first vector of indices for looking up second blending factors for the second image; and

looks up simultaneously the first and second blending factors using the first vector of indices in the vector look up unit.

39. (Previously Presented) A processing system as in claim 38 wherein the vector processing unit stores the first blending factors into the first vector of blending factors in a first vector register in the vector register file and the second blending factors into the second vector of blending factors in a second vector register in the vector register file.

40. (Original) A processing system as in claim 36 wherein to convert the vector of keys the vector processing unit:

generates a first vector of indices in a vector register in the vector register file, one key in the first vector of keys being replicated as a first plurality of indices in the first vector of indices for looking up respectively a plurality of bit segments of a first blending factor; and

looks up simultaneously a first vector of blending factors comprising the first blending factor using the first vector of indices in the vector look up unit.